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## Conference Reports

### Third euroMat Industry Workshop: Efficient Development of Sustainable Products

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Organized by the Department of Waste Minimization and Recycling of the Technical University Berlin, the 3rd euroMat Industry Workshop took place on April 27, 1999. Headed by Prof. Dr.-Ing. Günter Fleischer, the workshop focused on computer-aided material selection in the context of the Design for Environment (DfE).

Within the framework of a project commissioned by the German Federal Ministry for Research and Education, an interdisciplinary research team developed the tool euroMat. euroMat is a comprehensive material-selection tool enabling the designer to select the best possible materials or material combinations, as well as the corresponding manufacturing and recycling processes. It realizes a concurrent engineering approach and includes an assessment of the technological feasibility of materials, as well as an assessment of recycling quality, life cycle costs, work environment, risks involved, and environmental burdens from cradle-to-grave.

The environmental assessment is an adaptable iterative approach based upon the Life Cycle Assessment (LCA) framework according to ISO 14040 to 14043. This Iterative Screening LCA starts with a screening for hot-spots and ends with a detailed quantitative assessment (for further information see FLEISCHER and SCHMIDT, 1997 [1]).

Aside from the Technical University Berlin (head of project: Prof. Dr.-Ing. Günter Fleischer), the C.A.U. GmbH, the Fraunhofer Institutes ICT and IPT, the IKV of the RWTH Aachen, and the BTU Cottbus have also been involved in the development of the methodological foundations.

In order to implement euroMat as a software-based tool, the project team was expanded in 1998 to include the software engineering firm CAMTEC Software GmbH, as well as the four product developing companies Ford Werke AG, MAN Technologie AG, P&D Systemtechnik GmbH, and Sachsenring Entwicklungsgesellschaft mbH. This fruitful cooperation ensures the development of a powerful and industry oriented DfE tool.

At the beginning of the workshop the basic methodological foundations, the achieved results, and the current state of the software tool were presented to the representatives of 15 companies. The following discussion was enriched by a presentation by Ulrich Golüke from the Scenario Unit of the World Business Council for Sustainable Development. He

pointed out concisely why sustainable development and material selection are essential challenges for industrial companies. The presentation offered ideas on how these challenges could be turned into competitive advantages for strategically thinking companies.

In the second part of the workshop, the following issues were elaborated and discussed in separate working groups:

- 'euroMat - added value for the designer', focusing on the question "What are the conditions for the implementation of euroMat within the industrial design process?"
- 'data supply by the euroMat data bases' focusing on the question "What are the conditions whereby data providers as well as data users can benefit from euroMat?"

It became evident that the simple handling and documentation of the software, comprehensive training, the supply of extensive inventory data concerning material properties and process data, easy updating procedures, as well as the embedding of euroMat in existing software systems for product development within a company, are crucial for the successful industrial application.

The workshop ended with the conclusion that euroMat is a big step forward in the development of powerful DfE tools due to its methodological approach. The composition of the project team and the information exchange with many industry branches ensures the generation of a tool for the practitioner that can be tailored to specific design applications.

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